United Nations A/72/755

General Assembly

Distr.: General
20 February 2018

Original: English

Seventy-second session
Agenda item 136
Programme budget for the biennium 2018–2019

Status of implementation of the information and communications technology strategy for the United Nations*

Report of the Secretary-General

Summary

Information and communications technology (ICT) has been evolving beyond serving as an operational tool to become a valued partner and enabler in the work of the United Nations. The power of technology to foster and catalyse inclusive development opportunities is essential to ensuring that the Organization can meet its mandates. In recognition of technology and data as instrumental to the inner workings of the United Nations and critical in programme delivery and mandate fulfilment, the ICT strategy (A/69/517) established a common vision for ICT delivery in the United Nations through modernization, transformation and innovation, founded on a framework of improved governance and an effective balance of central leadership and operational freedom; it is an essential element of the Secretary-General's reform proposals. The Secretary-General presents this third report on the progress of the ICT strategy, two and a half years into its implementation. The present report provides a comprehensive update of the status of all key initiatives and commitments contained in the strategy, accompanied by an overview of the management of ICT globally.

* As requested by the General Assembly in its resolution 70/248, the present report includes a baseline assessment of information and communications technology, which is being conducted across the Secretariat. In addition, the comprehensive nature of such technology across the United Nations and the need to provide details on the current information and communications technology landscape, as well as on the alignment of the information and communications technology strategy with related strategic activities that are being refined, necessitated complex analysis that was finalized one day after the submission date.

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I. Introduction

1. The information and communications technology (ICT) strategy (A/69/517), which was endorsed by the General Assembly in 2014 in its resolution 69/262, established a common vision for ICT delivery in the United Nations. The direction was set in 2014, and progress over the first year and a half of implementation was previously reported to the General Assembly at its seventy-first session (A/71/400).

2. Developed to support the goals of the United Nations, the strategy establishes a vision of the unified global provision of information and communications technology, enabling the successful delivery of the Organization's mandates through modernization, transformation and innovation, founded on a framework of both improved governance and an effective balance between central leadership and operational freedom. The strategy is designed to deliver:

(a) Transformation of the technology environment at the United Nations over five years;

(b) Structured modernization of ICT across the Secretariat;

(c) Optimization of resources;

(d) Strong governance measures;

(e) Enhanced space for innovation at the United Nations.

3. Technology at the United Nations is evolving from a fragmented focus on transactional services and solutions delivery to becoming a valued institutional partner in the creation of a modern digital United Nations, as well as a driver of innovation for the substantive mandates of the Organization. The power of ICT to foster and catalyse the achievement of the Sustainable Development Goals is essential to ensuring that the United Nations can meet its mandates. It is critical, therefore, that the Office of Information and Communications Technology continue to partner with Secretariat colleagues to transform and modernize the ICT landscape while simultaneously working to leverage innovative technologies that support the core work of the Organization.

4. To achieve the successes of the strategy to date, it has been essential to strengthen the governance framework to oversee policies and guidelines, architecture, standards and investment choices that will turn ICT into a powerful tool that the Organization can use to fulfil its mandates. Secretary-General's bulletin ST/SGB/2016/11 defines the organization of the Office, in addition to establishing internal policies and procedures for formalizing designation and delegation of authority.

II. Overview of implementation and governance

A. Summary of implementation during the third year

5. The ICT strategy (A/69/517) is a five-year plan to transform the technology environment at the United Nations and to support the work of the Organization in the areas of peace and security, international law, human rights, development and humanitarian affairs.

6. Solid progress has been made in the first two and a half years of the strategy's implementation in modernizing and transforming the ICT landscape, thereby creating a stepping stone to a period of innovation. Achievements include the following:

(a) The Office of Information and Communications Technology provided critical support through global network harmonization, integration access and production support for the deployment of Umoja;

(b) Enterprise Application Centres in New York, Vienna and Bangkok coordinate application development and harmonization while serving global user groups throughout the Secretariat. Together, the Centres have worked to reduce the number of legacy applications from 2,340 (as at 1 July 2014) to 1,220 in 2017. In addition, the Unite Mail project is serving as a catalyst to accelerate the migration or retirement of additional legacy IBM Notes applications. The Enterprise Application Centres continue to establish global, standardized enterprise solutions as the primary modality to decrease and defragment the legacy application landscape, resulting in greater economies of scale and improved security and reliability;

(c) Regional Technology Centres in Nairobi, New York, Bangkok and Geneva are responsible for harmonizing ICT services across regions, institutionalizing governance, ensuring compliance with global standards and policy and implementing the strategy;

(d) The Unite Service Desk provides global, round-the-clock support for Umoja and other enterprise applications and was designed to constitute a cost-effective and more efficient shared-service global model; serve as a single point of contact for ICT service requests; and achieve scale and facilitate in-house development of enterprise application support expertise;

(e) Umoja, Inspira and Unite Mail accounted for 69 per cent of all tickets submitted. Compared with the previous year, the Organization achieved a 48 per cent reduction in service request tickets for Inspira support through a more intuitive "contact us" form. At the same time, the Organization resolved 61 per cent of Umoja requests on the first call, with an average resolution time of just three hours, compared with eight the previous year. Overall, resolution time for all support requests decreased by some 66 per cent;

(f) Enterprise Data Centres are fully established and operational, enhancing the reliability of the data-hosting capacity. The footprint for the remaining 86 data centres has been reduced by an additional 25 per cent;

(g) A single network for one United Nations was established by merging established systems of the Office and the Department of Field Support, connecting 594 United Nations locations (Headquarters, offices away from Headquarters, economic commissions, peacekeeping missions and special political missions);

(h) Through the systematic implementation of the ICT security road map, enterprise systems and applications in the Secretariat are more secure. Actions include the following:

(i) The Office developed a 10-point action plan to strengthen information security across the Secretariat, which is moving to maintenance mode;

(ii) It is proactively implementing effective measures that address both short- and long-term information security concerns, including upgrading email and Internet filters;

(iii) The Office developed a computer-based information security awareness course to give all United Nations staff and authorized ICT users the fundamental tools and knowledge to help to strengthen information security. By 2016, over 50,000 personnel had completed the course;

(i) There has been productive collaboration among departments, in particular significant achievements in partnership with the Department of Field Support, including the Department's role in hosting the Enterprise Data Centres and managing the global "One United Nations" network, as well as implementing key enterprise solutions to support field operations:

(i) The first release of an electronic contingent-owned equipment (eCOE) system accessible through mobile devices, including machine learning models for equipment recognition, has gone live to increase inspection efficiency and billing accuracy, increasing the speed of payments to troop-contributing countries;

(ii) The electronic fuel management system (eFMS-2) is being ported from Windows CE to Android tablets to enhance data quality;

(iii) The first mobile release of the electronic rations management system (eRMS) is live and significantly increases the quality of food and ration deliveries;

(j) Efforts are under way on the United Nations digital agenda, innovative solutions and analytics, mainstreaming Umoja, building sustainable capacity of the Unite Service Desk, global sourcing and global asset management initiatives. Key initiatives in those areas include:

(i) Deployment of Unite Mail (Outlook) to the entire Secretariat, from April 2017, replacing the long-standing IBM Notes email platform. The initiative is a key part of the ICT strategy for the United Nations and is intended to bring the Organization into alignment with industry best practices. Unite Mail centralizes the administration and management of the Organization's most critical system and the enforcement of uniform security policies; the Unite Mail package includes Skype for Business, a collaboration platform that includes instant messaging, ad hoc audio and video calls and conferences, placing every Secretariat user a click away. The Secretariat will be united by a common "@un.org" email address. Federation with other United Nations agencies, funds and programmes is under way, enabling the United Nations common system to collaborate without barriers;

(ii) The Digital Blue Helmets, established in the Office of Information and Communications Technology, is an elite team of analysts that helps to protect the United Nations from cyberthreats and promotes cybersecurity, given the ever-increasing number of cyberthreats endangering the United Nations, growing concerns in the global community over trafficking, terrorism and other malicious actions, a rising awareness of the threat of cyberwarfare, and an increasing reliance on technology by societies globally. The following statistics highlight the severity of the cyberthreats that society collectively faces:

a. Some 90 per cent of organized terrorism on the Internet is committed by means of social media;

b. Since mid-2015, 125,000 Twitter accounts have been suspended for threatening or promoting terrorist acts;

c. There is a 26 per cent likelihood of a data breach involving 10,000 or more records;

d. In 2015, it was estimated that cybercrime might have cost the global economy $525 billion; by 2019, the cost could reach $2.1 trillion;

(k) The United Nations produces a vast amount of information covering a wide range of subjects in the six official languages, as well as other languages, and in various formats. Increasingly, the information is being made available to the public as open data. Unite Ideas (https://ideas.unite.un.org) is a web-based platform in which academia, civil society and the United Nations can meet to exchange ideas, learn from each other and help others by tackling data science and visualization challenges. The winning solutions, including their open source code, are shared and are made available on Unite Ideas for reuse by Governments and civil society organizations. In this manner, Unite Ideas serves as a practical catalyst to enable a better understanding of political and socioeconomic data in meaningful, interactive and dynamic ways;

(l) The Office is working closely with partners worldwide to develop open source technology solutions using publicly available data and tools to address some of the most pressing challenges. The work is being done through technology innovation laboratories, in which local and global innovators from the private sector, academia, Member States and the United Nations jointly solve problems and rapidly build prototypes of solutions to meet local needs. Unite Ideas and the United Nations Technology Innovation Labs network are examples of such initiatives. It is proposed that technology innovation laboratories be established in collaboration with Member States to support the work of the United Nations. The Office will fulfil a technology and innovation role in those laboratories and will oversee their operation;

(m) The Enterprise Application Centre in Vienna is responsible for developing sustainable and affordable information technology solutions to support the United Nations Office on Drugs and Crime (UNODC) in assisting Member States in combating money-laundering and the financing of terrorism. Such software products, collectively known as "goPortfolio", are intended to help to strengthen the capacity of Member States to fight organized crime, including transnational organized crime, illicit drug and other forms of trafficking, terrorism and corruption, and in research, trends analysis and forensics. The goPortfolio suite is designed to support such efforts in alignment with the United Nations strategic programmes in those areas;

(n) Unite Business Intelligence was deployed to support strategic direction, policy formulation and decision-making at all levels of the United Nations for both administrative and substantive work. It provides fast, convenient access to enterprise-wide information that has been integrated from trusted sources (e.g. Umoja, Inspira, iNeed) to better leverage the Organization's data sources. Its streamlined and standardized reporting process serves to improve business planning and performance through clearer and more coherent overviews and actions cross-organizationally;

(o) Through the Information and Communications Technology Network of the United Nations System Chief Executives Board for Coordination, co-chaired by the Chief Information Technology Officer, shared services and formulated contractual arrangements for goods and services that support global sourcing have been identified. Such contractual arrangements are available to the United Nations common system. In addition, through improved collaboration, shared ICT solutions and services have been implemented.

B. Consolidation of information and communications technology resources

7. Pursuant to General Assembly resolution 66/246, section II of resolution 69/262 and section V of resolution 70/248 A, and to address recommendations highlighted in the report of the Board of Auditors (A/67/651), ICT functions and resources of offices within the Department of Management have been engaged in consolidation efforts, with some offices harmonized.

8. In the biennium 2016–2017, several technology units were consolidated into the Office of Information and Communications Technology, namely from the Office of Human Resources Management, the Office of Central Support Services and the Office of Programme Planning, Budget and Accounts.

9. In the biennium 2018–2019, the Office of Information and Communications Technology will continue its efforts to consolidate and harmonize the ICT environment across the Secretariat and at all duty stations and field missions, including the proposed transfer of seven posts and associated non-post resources from the Crisis Management Information Support Section of the Department of Safety and Security. The integration of functions would result in savings attributable to a proposed abolishment of one P-3 post within the Department, while the remaining resources would be transferred on a cost-neutral basis.

C. Information security

10. The Office of Information and Communications Technology, under the leadership of the Chief Information Technology Officer, has worked to coordinate and promote the development of shared capacity to address cybersecurity threats directed at United Nations organizations. For example, in the past year the Office has led the development of a shared threat intelligence platform, which allows participating organizations to share cybersecurity intelligence.

D. Umoja mainstreaming

11. In its resolution 70/248 A, the General Assembly requested the Secretary-General to develop detailed transition plans for the long-term support of the Umoja solution to be provided by the Chief Information Technology Officer and for its mainstreaming.

12. In its resolution 71/272 B, the General Assembly reiterated the importance of ensuring a smooth and timely transfer of responsibilities from the Umoja project to corresponding entities within the Secretariat.

13. The Umoja project team and the Office of Information and Communications Technology continue to collaborate in the development and implementation of the mainstreaming plan for ICT functions to be transferred to the Office, including opportunities for leveraging expertise and skills globally.

E. Financial impact summary

14. The estimated regular budget resources for the biennium 2018–2019 for ICT amount to $392.5 million. This represents no change compared with the 2016–2017 biennium.

15. The approved regular budget resources for the biennium 2018–2019 for ICT amount to $95.5 million. This represents a decrease of $2.3 million, or 2.4 per cent, compared with the biennium 2016–2017. The decrease is offset in part by resources related to information security and additional Umoja maintenance costs.

16. Peacekeeping mission budgets for ICT decreased by an estimated 12.2 per cent from the 2016–2017 biennium to the 2018–2019 biennium (from $851.9 million to $747.9 million). ICT expenditures as part of the support account for peacekeeping operations decreased by 5.5 per cent, from $57.7 million in the 2016–2017 biennium to $54.5 million in the 2018–2019 biennium. Comprehensive financial analysis is provided in the section on budget projections of the present report, together with an overview of ICT resources for the bienniums 2014–2015, 2016–2017 and 2018–2019, including resources for Umoja (annex I).

17. The estimated extrabudgetary resources for the biennium 2018–2019 for ICT amount to $181.5 million. This represents a decrease of 1.8 per cent compared with the biennium 2016–2017.

F. Compliance

18. Strong leadership has been critical to achieving the successes of the strategy to date. Bolstering the governance framework is also essential to overseeing policies and guidelines, architecture, standards and investment choices that will turn ICT into a powerful tool that the Organization can use to fulfil its mandates. Secretary-General's bulletin ST/SGB/2016/11 defines the organization of the Office of Information and Communications Technology, in addition to laying down internal policies and procedures for formalizing designation and delegation of authority.

19. The Office is headed by the Assistant Secretary-General, Chief Information Technology Officer, who is accountable to the Under-Secretary-General for Management. The Chief Information Technology Officer is responsible for providing leadership in ICT activities globally and is supported by the Chief of the Enterprise Project Management Office, the Director of the Global Services Division, the Director of the Global Operations Division, the Chiefs of the Regional Technology Centres, the Chiefs of the Enterprise Application Centres and the Chief of the Operations Coordination Section, in collaboration with the heads of ICT organizational units in the Secretariat. This governance framework ensures that key stakeholders work together to effectively guide the management of the Organization's ICT activities and resources.

G. Project assurance and performance management

20. The Enterprise Project Management Office continues to ensure that the broad scope of ICT projects and performance is monitored effectively. Annex II provides updated details on the status of all projects, as requested by the General Assembly. The projects have adhered to established governance and discipline, while also being subject to risk management scrutiny in accordance with enterprise risk management principles. Any changes to projects are subject to review and approval.

21. There continued to be notable improvements in the past year in relation to project assurance and performance management: quality assurance auditing of the monthly project status reports has increased, one-on-one training with project managers was initiated to ensure compliance, global project status meetings continue to be held, and the project management board meets every month to review project changes, critical risks and other issues. Table 1 illustrates the progress in mitigating the risks reported in the third year of implementation of the strategy.

Table 1
Progress in mitigating risks

Risk description	*Mitigation plan*	*Progress to date*
Inadequate ICT skill set to implement the strategy	Increased training and skills assessment	Additional staff have undertaken ICT training, spanning over 22 ICT courses. Skills assessment is ongoing
Decentralized procurement and lack of transparency of ICT contracts	Implementation of global sourcing and deployment of Umoja	The global sourcing project is progressing, with the geospatial information services contract awarded in July 2016; the expansion of the SITA telecommunications contract for global connectivity also represents a successful example of global sourcing; a global system contract for ICT is expected to be awarded in the first half of 2018; a statement of work for the establishment of a global system contract for software development — application service is being developed, and a new contract is expected to be awarded in the first half of 2019; efforts are under way to optimize the distribution chain of network equipment supplied by Cisco, which is already a United Nations contractor; direct negotiations are under way for the establishment of cloud computing services, and new contracts are expected to be awarded between the second half of 2017 and the first half of 2018. A Contracts Management Unit has been put in place within the Operations Coordination Section of the Office of Information and Communications Technology in support of the administration of contracts pertaining to the Office and the Information and

Risk description	*Mitigation plan*	*Progress to date*
		Communications Technology Division of the Department of Field Support
Continued fragmentation, limiting effective implementation of the strategy	Improved service delivery, implementation of delegation of authority and strengthening of governance, controls and monitoring tools	The Secretary-General's bulletin on the organization of the Office of Information and Communications Technology (ST/SGB/2016/11) was issued in 2016. Policies for the implementation of additional delegation of authority have been finalized. Challenges exist in this area
Change fatigue and resistance to change	Increased stakeholder engagement and outreach and improved service delivery metrics	Continued engagement has taken place between the Office of Information and Communications Technology and stakeholders
Lack of information security awareness, leading to compromises of ICT systems, confidentiality and integrity of information	Monitoring of the completion rate of mandatory information security awareness training course and increased security threat communications	The completion rate of the mandatory training is monitored monthly. Staff are alerted regularly in response to security threats. Challenges continue in this area
Lack of visibility of ICT assets	Implementation of asset monitoring and controls	All United Nations ICT property, plant and equipment assets are currently recorded into Umoja, which enables the management of the recorded ICT assets' life cycle, from the definition of requirements to the procurement process, use and disposal. The physical verification process, conducted throughout the year by the property management and inventory control units in the missions and at Headquarters and offices away from Headquarters, confirms that all ICT tangible assets have been accounted for properly
Insufficient and fragmented funding relative to the increasing scale and complexity of ICT	Realization of efficiencies in ICT operations and reinvestment towards more strategic activities	Planning assumptions for estimated future resource requirements have been developed for global ICT activities

III. Modernization and transformation: update on key initiatives under phase one of the strategy

A. Enterprise support: Umoja

22. Close collaboration with the Umoja project team continues to ensure a smooth and timely transfer of responsibilities from the project to corresponding entities within the Secretariat, as part of the Umoja mainstreaming efforts. The management of the core Umoja infrastructure has been outsourced to a commercial vendor, and the access layer is administered through the Enterprise Data Centres in Valencia, Spain, and Brindisi, Italy.

B. Trust and confidence: information security and disaster recovery

23. Recent ICT security incidents clearly demonstrate an increased threat level facing the United Nations that has grown significantly since the ICT strategy was endorsed. The lack of harmonization of ICT systems, services, programmes and resources, coupled with organizational inertia in this area and an insufficient ICT security capacity, has resulted in the continuation of a highly fragmented ICT landscape that is at a high risk of being attacked. To minimize the damage to the Organization in the inevitable event of an information security incident or incidents, the Office of Information and Communications Technology has taken a firm stance against technology and data services that are not compliant with information security standards. However, the underlying issue of significantly increased susceptibility to information security risk will remain if ICT within the Organization remains fragmented.

24. The previously mentioned 10-point action plan to address the most critical shortcomings in information security was presented to the General Assembly and subsequently endorsed. In 2017, the 10-point action plan transitioned to maintenance mode. A longer-term strategic road map has been developed for information security going forward, brought about by the need to build on the 10-point action plan and in response to evolving threats. The objectives of the information security road map are:

(a) To provide a set of pragmatic activities built on the framework established in the aforementioned documents;

(b) To broaden the scope of the initiatives of the 10-point action plan;

(c) To transform the initiatives into ongoing programmatic activities;

(d) To expand the objective beyond addressing common deficiencies within the Secretariat's ICT environment to providing guidance on and solutions for specific risk areas, such as the handling of sensitive information, and operational requirements;

(e) To institute accountability for recognizing the central role of the Chief Information Technology Officer, outlined in ST/SGB/2016/11, and ensuring compliance within the delegation of authority framework.

25. It is important to note that information security is a cross-cutting issue and that the information security programme is therefore linked to other transformational aspects of the ICT strategy, in particular the harmonization and consolidation of

applications, data centres and support models, and is interconnected with and dependent on operational activities.

26. The ICT strategy included a programme designed to strengthen technical authority and accountability through the establishment of a normative structure, increased standardization and strengthened governance. Although it is recognized across the information technology industry that absolute security is not achievable, the aforementioned changes have been instrumental in strengthening information security and reducing the Organization's risk profile. The information security road map establishes an approach ensuring that all information assets are appropriately protected according to their classification, value and the degree of damage that could result from their misuse, unavailability, destruction, unauthorized disclosure or modification.

27. Risk management has been strengthened to include knowledge about the assessment of the assets, the threats to those assets and the consequences that arise when any of those threats affect any of those assets.

28. As the multiple systems used for building management (e.g. elevators, air flow control, power systems), conference management (broadcast and audiovisual systems, announcement and notification systems, electronic voting) and physical security (e.g. access control, video surveillance) are increasingly digitized and interconnected, they have become exposed to the same threats as more traditional information technology systems. The ICT security road map intentionally expands the focus of risk management to include these non-traditional but critical IT systems that have been excluded in the past, thereby establishing a more robust risk management approach.

29. To establish central control over information security under the authority of the Chief Information Technology Officer, pursuant to resolution 69/262, the Global Security and Architecture Section in the Global Services Division is responsible for the oversight and coordination of all information security activities within the Secretariat. This includes the areas of information security governance and information security management as defined in the information security policy directive.

30. Information security management and information security operations activities at the regional and local levels have been delegated to the Regional Technology Centres and the Department of Field Support, for field missions. However, as stipulated in existing policies, a significantly increased level of transparency of the management and operational activities continues to be essential if information security is to be effective. Owing to the enterprise nature of the Organization's networks and applications, information concerning security risks, incidents or breaches that occur in one Secretariat entity or location that can have an impact on other parts of the Organization, even if they are seemingly unconnected or distant, must be promptly shared.

31. During the 2018–2019 biennium, the Office of Information and Communications Technology will establish four additional posts to strengthen information security, as approved by the General Assembly in its resolution 72/261 and in line with resolution 67/254 A and following the Assembly's endorsement of the ICT strategy in its resolutions 69/262, 70/248 A and 71/272 B, including non-post resources associated with furniture and equipment, contractual services and travel of staff (4 P-4 posts based in the Regional Technology Centres in New York, Bangkok, Nairobi and Geneva).

32. Those resources are essential to enhancing the ability of the Office to identify, manage and mitigate new, emerging threats and ensure compliance with information security standards, architecture, and policies and procedures. In addition, the Office will be able to perform the following critical tasks: conducting security reviews and compliance audits of systems and applications, participating in information risk assessments, overseeing the implementation of programmatic and operational information security projects and coordinating the response to information security incidents as part of the global incident response team.

C. Shared platform: Enterprise Application Centres

33. The Enterprise Application Centres continue to coordinate and lead the global development and support of legacy applications, resulting in the reduction of the number of applications from 2,340 in 2014 to 1,220 in 2017. That reduction in the number of applications by 1,120 was achieved through the consolidation of functionalities with existing enterprise applications and standardized platform-based solutions such as iNeed, Umoja, Inspira, Unite Docs, Unite Connections and Unite Web, as well as through the decommissioning and retirement of obsolete systems. The Centres continue to reduce the number of legacy applications through collaborative efforts with local ICT entities, using established governance bodies and standard technical procedures.

34. The Enterprise Application Centres have undertaken a study to substantiate a different approach to the problem of the proliferation of applications in line with industry success stories and best practices. The study is expected to yield a new strategy to manage the Secretariat portfolio of applications.

35. The preliminary high-level drivers of the study include:

(a) The recognition that Secretariat departments and offices should be provided with agile, responsive and secure applications that use authoritative data within institutional frameworks such as Umoja, Inspira, Unite Docs and conference management systems to carry out their mandates;

(b) The success of "app stores", such as the Apple App Store, Google Play and Microsoft Store, in which the relevance and adoption or purchase of an app is directly related to its cost, ability to respond to user requirements, security and maintenance model, among other parameters. Such parameters can be easily measured and directly related to user adoption statistics. The applicability of such an application development and delivery model will be reviewed from the perspective of United Nations requirements;

(c) The impact of a full adoption of cloud-based services in support of standard application platforms already in use in the Secretariat. Cloud-based services could provide better insight into the costs of maintaining redundant applications, and offer a solution to move both legacy and new applications to the security-vetted cloud environment managed by the Office of Information and Communications Technology;

(d) The need to integrate small and agile applications on secure platforms managed by the Office of Information and Communications Technology that are commoditized for the use of application developers within and, potentially, outside the Organization;

(e) The need to provide software solutions supporting the fulfilment of substantive United Nations mandates, especially the attainment of the Sustainable Development Goals, in line with the United Nations digital agenda.

36. It is expected that the result of the study and a proposal for a new application portfolio management approach will be shared in the next progress report.

Enterprise solutions

37. The Enterprise Application Centres in New York, Vienna and Bangkok are responsible for the development of innovative enterprise solutions to support the effective delivery of United Nations mandates. Enterprise systems will increasingly replace multiple localized legacy systems that are used to automate manual work and processes, manage information and support decision-making. Enhanced integration across enterprise systems will also simplify training and improve the overall user experience. By using standard, centrally hosted systems, the Organization will be able to provide improved, more consistent and more reliable user support, performance, security and business continuity. New standard applications have been delivered in the areas described below.

Modern administrative and collaborative solutions

38. The Office of Information and Communications Technology continues to deliver administrative support systems that complement Umoja. The Unite Docs and Unite Connections platforms have replaced hundreds of local document repositories, databases and shared drives with standard, enterprise-class solutions. Many legacy systems have been retired and moved to the two more modern and secure platforms. The number of Unite Connections users has grown from 7,000 in 2015 to over 25,000 in 2017 worldwide, with over 1 million unclassified files uploaded. In addition, users collaborated on almost 18,000 wikis and blogs, and 5,800 communities were created. In the case of Unite Docs, over 6,900 users globally are using the system and have uploaded more than 2.5 TB (almost 4.5 million files) of content onto the platform. The Office continues to work closely with the Archives and Records Management Section to facilitate and improve records management.

39. Inspira, the standard Secretariat talent and learning management solution, has been enhanced to include functionalities to support offer management, the Secretariat mobility programme, post management and reference checking. Recruitment of consultants and temporary vacancy announcements are currently supported, as is enhanced integration between Umoja and Inspira. The Office of Human Resources Management continues to use Inspira to support e-learning and learning management, including its expanded use by the Department of Peacekeeping Operations in field missions for troop and United Nations police training on mandatory United Nations courses.

40. In addition, the Official Document System, which is the main repository for parliamentary documents, has been upgraded, including a new look and feel, to offer many new features available on a wide range of mobile devices, enhanced search capabilities and enhanced downloading. Further improvements will include supporting document metadata in the six official languages and allowing users to search document titles in all languages, in addition to the existing multilingual content currently provided.

Workflow systems

41. The automation, tracking and performance management of service delivery is critical to both management reform and the optimization of support services. The standard enterprise workflow and service management platform, iNeed, is used in various departments to expedite and monitor service delivery in such areas as human resources entitlements, the Unite Service Desk and facilities support requests, as well as for ICT operations management. This has resulted in previously unachievable visibility and insight into support and service management performance.

Solutions to support the work of the United Nations

42. Enterprise systems are increasingly being used by institutions worldwide to support the substantive work of the Organization in a variety of critical areas, including prevention of drug trafficking and money-laundering, financial intelligence, conference management support and learning management. The financial transaction analysis system developed and supported by the Enterprise Application Centre in Vienna in the context of a European Union-funded UNODC project, goAML, is among the critical tools used by Member State administrations to combat these ever-growing threats. It is used by financial intelligence units of Member States to combat money-laundering and the financing of terrorism as part of the goPortfolio (unite.un.org/goPortfolio) software suite for Member States, intended to help to strengthen their capacity to fight organized crime.

43. The United Nations has increasingly relied on websites, both public and internal, to share information across multiple constituencies within and outside the Organization. The Secretariat and the agencies, funds and programmes all use public websites such as those hosted on the www.un.org website to communicate their mandates, achievements and activities. The number of such websites continues to grow and attract large numbers of visits, with the www.un.org site alone receiving more than 150 million unique visits in the previous year, while serving as the information gateway to the Organization. This increase in usage and visibility of websites has also increased risks to the data, reputation and security of information of the United Nations in cases where the requisite ICT security controls are not in place. In addition, websites that are non-compliant with standards in the areas of technology, ICT security, branding, multilingualism and accessibility ultimately undermine the image of the United Nations and its commitments to represent and serve its constituencies. In response, the Office of Information and Communications Technology, in cooperation and coordination with the Department of Public Information and the Department for General Assembly and Conference Management, continues to advance its website harmonization programme and has established strengthened procedures to ensure compliance with standards. Ensuring multilingualism and accessibility across websites is especially critical to making United Nations public information as inclusive and accessible as possible. The Office is employing several innovative technologies, software and technical training to ensure that sites meet accessibility requirements to remove barriers that prevent interaction with, or access to, websites by people with disabilities and to provide equal access to information and functionality to all users. The Unite Web platform is central to those efforts, providing an enterprise standard web content management platform to departments that offers a cost-effective solution to manage public websites without the need for developers or technical skills.

44. The Secretary-General, in his report entitled "Special measures for protection from sexual exploitation and abuse: a new approach" (A/71/818 and

A/71/818/Corr.1), presented his strategy to improve the Organization's system-wide approach to preventing and responding to sexual exploitation and abuse. The strategy focuses on four main areas of action: putting victims first; ending impunity; engaging civil society and external partners; and improving strategic communications for education and transparency. The Office of Information and Communications Technology is working under the leadership of the Office of the Special Coordinator on Improving the United Nations Response to Sexual Exploitation and Abuse, and in coordination with the Department of Public Information and the Office of Human Resources Management, to provide technical solutions to support the prevention of sexual exploitation and abuse across several areas, including: data collection, analysis and reporting; a system-wide repository of sexual exploitation and abuse cases and screening tool; a public-facing information portal on prevention of sexual exploitation and abuse; and ICT security technologies to prevent sexual exploitation and abuse online. These solutions will be developed and deployed during 2018.

Field systems

45. Field operations are conducted in environments with limited commercial and local telecommunications and Internet services. The Office of Information and Communications Technology, in collaboration with the Department of Field Support and the Department of Peacekeeping Operations, has delivered enterprise solutions to support key substantive and support areas. Examples of critical systems deployed to field operations include the electronic management of contingent-owned equipment (eCOE), which automates the inspection of contingent-owned equipment, consequently increasing billing accuracy and accelerating payment to troop-contributing countries.

46. The electronic fuel management system (eFMS-2), which provides full transparency across fuel supply chain operations, monitors consumption and helps to detect the misappropriation of fuel. The use of the system has resulted in savings due to faster data analysis and prompt-payment discounts, as well as a reduction in operational costs and fuel consumption due to stronger controls over fuel issuance.

47. The Field Support Suite of the Department of Field Support streamlines, standardizes and automates field-specific administrative and operational tasks common to most missions. Field Support Suite modules are designed to work together and to interface with other enterprise systems, such as Umoja, to facilitate service delivery in all field missions. The newest modules of the Field Support Suite include the aviation information management system, which streamlines data collection and core business processes related to air operations at the mission level. The system comprises a centralized database shared by New York, Brindisi and field missions.

48. Additional functionalities have been incorporated into the aviation information management system, such as basic crew management functionalities, real-time visibility of expenditure, including distribution of insurance costs, visualization of air operations on maps and automatic analysis of flight hours, thus enhancing essential support tools for air operations. The system is currently deployed in 23 field missions worldwide.

D. "One United Nations" network: global wide area network

49. The "One United Nations" wide area network, which unified 594 locations under a single standard, is fully operational. It successfully replaced over 100 legacy systems with a network that interconnects offices to ensure consistency, reliability

and secure service delivery, including the deployment of the five Umoja Foundation and Extension 1 clusters. This was achieved through a joint project with the Department of Field Support, led by the Chief Information Technology Officer. The "One United Nations" wide area network represents the cornerstone required to enable a centralized monitoring function, support the ICT infrastructure and further facilitate standardization.

E. Regional delivery model: Regional Technology Centres

50. The Regional Technology Centres, which were established in May 2015, are one of the governance and oversight mechanisms that ensure compliance with information security, ICT policies, standards and work methods. They also coordinate the delivery of technological solutions regionally. The Centres continued to solidify objectives achieved until 2016, ensuring that solutions remain sustainable and current. Priority projects in the Centres' ongoing programmes of work include:

(a) Setting up the appropriate global infrastructure to consolidate email messaging domains, migrating all mailboxes to the Microsoft Office 365 cloud and hosting therein; and supporting the implementation of additional Microsoft 365 tools, such as Skype for Business, OneDrive, Yammer and other applications. To date, over 23,000 user accounts around the world have been migrated. An additional 45,000 peacekeeping accounts will be migrated until the end of the third quarter of 2018;

(b) Continuing to secure the digital work environment to make it safe for staff, through initiatives such as mobile device management and the standardization of Wi-Fi protocols;

(c) Establishing global unified communications standards and tools following industry best practices, including the harmonization and standardization of equipment and procedures, and the convergence of email, voice, video, instant messaging and presence into one coherent United Nations-wide communications platform;

(d) Harmonizing the ICT infrastructure, as well as the service catalogue, while standardizing the service delivery management processes;

(e) Providing ongoing operational support for the implementation and monitoring of information security policies, including the 10-point action plan.

51. During the period, the Department of Field Support developed a field technology framework, which outlines the vision for the development of ICT in support of field mission operations over the next five-year period. The framework is aligned with the ICT strategy's vision for the delivery of ICT in the United Nations through modernization, transformation and innovation. It focuses on two priority objectives, namely optimizing the delivery of core ICT operations, and the repositioning required to become an effective delivery vehicle for innovation and technology solutions to field operations. The framework details the enabling role and commitment of the Department in implementing joint enterprise initiatives with the Office of Information and Communications Technology to leverage comparative advantage for the benefit of the Secretariat. It also details the steps required to introduce innovation to enhance capabilities and make field operations more efficient and effective, sustainable, agile and responsive. The implementation of the framework will be reviewed annually by the Department and will develop in line with the strategy's implementation.

52. The Regional Technology Centres complement the field technology framework of the Department of Field Support, which facilitates oversight by the Department of the delivery of ICT services in peacekeeping missions to civilian and uniformed personnel and other co-located partners through three regional ICT service centres spanning 35 entities. The annual workplans for the regional ICT framework promulgate department- and region-specific strategies; they also reflect the ICT strategy and region-specific goals.

F. Global monitoring: Enterprise Network Operations Centre

53. The Enterprise Network Operations Centre continues to successfully monitor all networks and Enterprise Data Centre operations. Additional consolidation is in progress with the merging of the monitoring solution run by the Office of Information and Communications Technology into the Network Control Centre operated by the Department of Field Support. That stage was completed in November 2017.

G. Hosting and connectivity: Enterprise Data Centres

54. The Enterprise Data Centres continue to deliver services in the areas of hosting, connectivity and monitoring. Major systems continue to be strengthened and moved to the Centres. Since July 2016, the following additional applications have been moved: programmatic donor reporting; enterprise search; Unite Conferences; legacy Domino applications farm; and enterprise service bus. Migrated applications benefit from the round-the-clock operation of the Centres, guaranteeing global service in all time zones. In addition, the Office of Information and Communications Technology is working in close collaboration with the Department of Field Support to create a single United Nations hybrid cloud data centre by interconnecting the Valencia, Brindisi and New York Data Centres to public cloud solutions.

55. The Office of Information and Communications Technology, together with the Department of Field Support, endorsed cloud adoption, further enhancing and diversifying the Enterprise Data Centre service offering. Cloud computing represents a great opportunity to achieve innovation and agility at a lower cost. Cloud computing leverages shared, configurable, scalable computing resources that are delivered as a service through the Internet. A new United Nations cloud strategy proposes a hybrid and multi-cloud approach. An on-premise, private cloud will host sensitive and critical applications and systems, while third-party, public cloud technologies will be acquired for other platforms. The cloud strategy will enable the United Nations to:

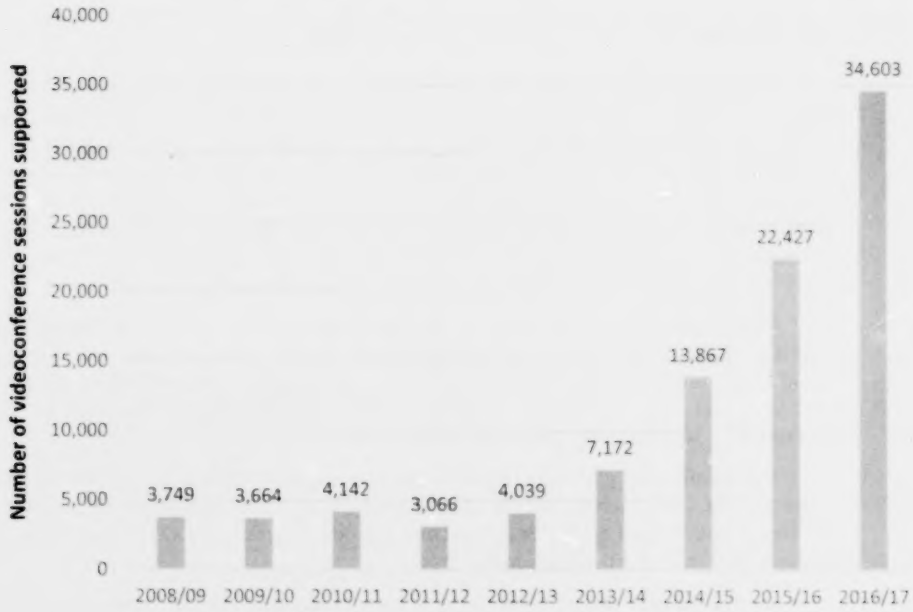
- Become more agile and responsive to business demands
- Establish a global footprint more quickly and with less capital, as well as reduce future expenditure
- Adapt to demand changes and scalability requirements more seamlessly
- Ensure greater transparency by line of business or project
- Reduce risk around infrastructure non-compliance
- Shift information technology resources away from low-value tasks to high-value ones, such as security and enterprise architecture

By adopting a cloud strategy based on automation and orchestration, the Secretariat believes that the impact will go beyond technology architecture to benefit the United Nations strategically and substantively.

H. Better tools: global engineering and conferencing

56. To maintain quality and continuously improve the service delivery of seamless videoconferencing, the existing technical procedure for operations and standards has been reviewed and updated with additional guidelines. Through close cooperation between the Office of Information and Communications Technology, the Department of Field Support, the United Nations Office at Geneva and other major videoconferencing service providers, implementation throughout the Organization has been monitored and is progressing well. Recent analysis has shown the significant reliance of the Secretariat on videoconferencing and confirmed the trend of increased number of videoconference sessions, as illustrated in figure I. Efficient ICT conference management systems help to control travel costs and minimize productivity loss through reduced travel time; however, further investment needs to be considered to meet the increased use of and demand for videoconferencing services.

Figure I
Use of information and communications technology conference management systems



57. Other projects to enhance global engineering and conferencing are also under way, such as unified communications; a videoconferencing booking and management system; and private cloud videoconference bridging infrastructure. Requirements and solutions for the projects have been developed, and projects will be executed through

interdepartmental and interregional collaboration, including the Department of Field Support and the Secretariat. While services will benefit users during the integration of the broadcasting and conferencing services, the infrastructure projects were planned to be integrated by the end of 2017.

58. An assessment of audiovisual and multimedia facilities and associated infrastructure conducted by the Regional Technology Centres and Global Engineering and Conferencing has shown that the infrastructure needs significant updating and investment. A considerable amount of United Nations equipment is due for replacement or needs to be upgraded, as many items have exceeded their economic life cycle. Global Engineering and Conferencing is actively assisting regional centres with the preparation of technology assessments and requirements analysis, as well as developing a long-term capital investment budget.

59. Global Engineering and Conferencing is providing expertise and assistance with projects to all duty stations, such as the strategic heritage plan of the United Nations Office at Geneva, the renovation of Africa Hall in the Economic Commission for Africa and the renovation of Conference Room 3 in the Economic and Social Commission for Asia and the Pacific. Those and other smaller projects are different in scope and scale and present a good foundation and building blocks for integration into a future strategic vision. Coordination between geographically and departmentally distributed projects is crucial to ensuring that required standards are compatible with the global strategy. A specific ICT technical coordination subcommittee has been established for the strategic heritage plan in order to improve project and new capital investment governance.

I. Client-centric service: Unite Service Desk

60. The Unite Service Desk, which first became operational in September 2014 in Bangkok, followed by Nairobi, Geneva, New York and Brindisi, is fully established at present and continues to pursue further consolidation, harmonization and continuous improvement of support activities for enterprise applications and services. The five hubs have achieved the primary objective of providing round-the-clock global support to United Nations personnel worldwide, irrespective of time and place. Working as one virtual entity, the five hubs serve as the single point of contact for service requests, problems or enquiries for all key enterprise ICT applications.

61. Core support processes, such as incident management, request fulfilment and problem management, have been established on the basis of the Information Technology Infrastructure Library framework, an industry standard set of detailed best practices for information technology service management that focuses on aligning ICT services with the needs of the business.

62. The number of global enterprise applications and services supported by the Unite Service Desk increased from 14 at the end of 2015 to 35 at present. In addition, the Desk consolidated activities in the Umoja production support value chain, which resulted in significant benefits, including:

- An overall decrease of 27 per cent of service requests per day relative to 2016, driven by the stabilization of Umoja (50 fewer service requests per day relative to 2016) and by the implementation of the Inspira "contact us" page (76 fewer tickets per day)
- A significant customer satisfaction achievement, as shown by an average score of 88 per cent, a result 6 per cent better than the previous year

- A marked operational improvement, evidenced by a 66 per cent decrease in average resolution time and a 43 per cent decrease in the average lifetime of service requests processed in 2017 relative to 2016

J. Strategic analysis: business intelligence and analytics

63. Analytics and business intelligence services have been delivered as a programme of the strategic framework of the Office of Information and Communications Technology. As the Organization matures in its understanding of the potential of data-driven decision-making, the demand for business intelligence and analytics services is increasing. More systematic data management across the Organization has resulted in the adoption of a single data warehouse, which serves as a repository for a range of data sources from legacy and current systems, leading to improvements in data governance and management.

64. At the senior management level, the Office of Information and Communications Technology has been providing a series of executive dashboards, facilitating access to unified data for decision-making and providing key managerial information related to finance, human resources and other corporate services. Senior managers thus have access to key performance indicators that combine data sources from major enterprise applications, including Umoja, iNeed and Inspira. These foundational business intelligence and analytics solutions have also been extended to support the substantive areas of the Organization.

65. As in most areas of ICT in the Secretariat, business intelligence is not yet harmonized, with multiple repositories of data, many different technologies in use and a range of methodologies employed. Efforts to harmonize business intelligence continue, with progress having been made in the areas of client engagement, requirements definition and stakeholder governance.

66. The Office of Information and Communications Technology has developed 100 generic business intelligence reports in all administrative areas and 14 dashboards. In cooperation with the Department for General Assembly and Conference Management, the Office has also put in place new dashboards for key performance indicators regarding conference management and the documentation chain.

IV. Innovation: a digital agenda for the United Nations (phase two of the strategy)

67. The explosive growth of the Internet and increased connectivity worldwide offer the United Nations unprecedented opportunities to engage technology and data to support its mission and to better reach those that it serves and represents. However, those opportunities also represent a significant threat to the Organization.

68. The focus of the ICT strategy has shifted to the use of technology and data in support of the core work of the United Nations. Noting that the General Assembly decided in previous resolutions that the Chief Information Technology Officer leads all ICT activities in the Secretariat, as the strategy transitions to the innovation phase, it is essential that ICT programmes supporting substantive work become more harmonized. Several initiatives are under way, building on the work done to date.

69. The digital agenda leverages technology to implement the decision of the General Assembly with respect to strengthening the Organization and facilitating the

work of the United Nations in the areas of peace and security, human rights, the rule of law, social and economic development and humanitarian affairs.

70. In today's world, ICT is much more than internal enterprise systems, services and infrastructure. It is a catalyst and enabler for better delivery of the overall mandates of the United Nations, and to this end innovation in technology and data are essential. With the digital agenda for the United Nations, the Office of Information and Communications Technology aims to provide offices and departments of the Secretariat with the means to leverage existing and emerging technologies to increase efficiency and effectiveness and to identify new ways of providing services and delivering on the Organization's mandates. Innovation is also important in countering cybersecurity threats, with recent incidents demonstrating that the level of risk faced by the United Nations has grown significantly since the ICT strategy was endorsed, and in fact even since the previous progress report on the ICT strategy to the General Assembly.

71. The United Nations currently finds itself in a world significantly different from the one of just five years ago. The global population has topped 7 billion, the physical world has changed, and areas considered stable have been destabilized by conflict and natural disasters leading to humanitarian crises. The United Nations continues to deliver on its mandates, adapting to the changing landscape and evolving its approach to peace and security, international law, human rights, humanitarian affairs and sustainable development. However, an even more seismic shift is occurring in cyberspace as the boundaries between the cyber and the physical worlds dissolve, introducing new and significant threats requiring a holistic approach to cyber and physical security. Those threats present a danger to the United Nations, its assets and its personnel and affect its ability to implement its mandates. In highlighting these issues, the ICT strategy seeks to raise awareness of those threats and establish means to counter them to the extent that resourcing will allow.

72. Internal cybersecurity groups such as the Digital Blue Helmets show how the Office of Information and Communications Technology supports and safeguards United Nations programmes. Staff and contract resources in the Digital Blue Helmets community are trained, knowledgeable practitioners who specialize in the risks and issues related to cybersecurity. As experts who can operate in the cyberworld, they play a critical role in analysing cyberthreats, protecting the United Nations from cyberintrusion, and in supporting departments in the implementation of mandates. Aside from an influential service, the Digital Blue Helmets represent a call to action for the members of the technology community who want to ensure that they take a positive role in cybersecurity, combating cybercrime and having a positive effect in cybersecurity capacity-building at the United Nations.

73. To increase awareness of emerging technologies and innovative techniques, the Office of Information and Communications Technology has started to hold periodic "TechNovation talks", which are briefings open to United Nations personnel, as well as delegates of Member States. The talks help to raise awareness of such issues as the future of organizations, cities and societies, blockchain and cryptocurrencies, artificial intelligence and machine learning.

74. Such briefings and resulting conversations with departments and offices often lead to concrete projects in which the Office of Information and Communications Technology employs new technologies to assist offices and departments. Recent examples include a tool for the analysis of General Assembly resolutions and voting records, a solution for the analysis of national cybersecurity strategies (in

collaboration with the International Telecommunication Union) and automated analyses of global conflict and terrorism.

75. New technologies such as artificial intelligence, machine learning and language processing are employed by the Office of Information and Communications Technology to create tools to address requirements within the Secretariat, as well as in support of Member States. In this area, an automated analysis of news and social media was undertaken to predict outbreaks of violence and was tested in the context of the recent national elections in Kenya. The Office continues to keep abreast of technological development and direction.

76. To engage technologists around the world, the Office of Information and Communications Technology implemented Unite Ideas, a crowdsourcing platform that harnesses ideas and solutions from thousands of data scientists and coders all over the world, which is currently used to solve complex challenges, providing real tools and solutions. These and many other ICT innovations help to make the United Nations accessible to the global community and Member States. To date, 11 challenges have been launched, with over 34,000 visits to the Unite Ideas site. The use of crowdsourcing allows the Organization to solve some of the most complex problems that humanity faces through the open and constructive contributions of the public.

77. A new platform, ICT for Sustainable Development (https://ict4sd.github.io), was launched in 2017 to facilitate collaboration with academia. The platform brings challenges to volunteering academic groups, which create solutions that are then shared with the United Nations, Member States and the public as open source software.

78. Innovation plays a critical role in moving the United Nations forward and in acknowledging that the Organization's ability to innovate and engage in partnerships will be a significant factor in whether it is successful in its efforts to implement its mandates. To engage the gears of innovation proactively, the Office of Information and Communications Technology is establishing United Nations Technology Innovation Labs, using the cutting-edge frontier technology currently available, such as blockchain, artificial intelligence and the Internet of things. Through innovation and partnerships, the United Nations will use technology to address a wide range of issues that pertain to its mandates. The United Nations Technology Innovation Labs will support the sharing of technologies and ensure that solutions are scalable, replicable and effective in helping to solve systemic global problems and accelerate the delivery of United Nations mandates.

79. The Office of Information and Communications Technology has initiated a structured approach to the establishment of partnerships, one component of which is an ICT advisory board. The board is designed to operate at the nexus of external organizations and the United Nations, bridging the gap between the private and public sectors and academia with the mandates of the United Nations.

80. Many partnerships have been established with private and public sector organizations, as well as academia and individuals in relevant fields. An example is the United Nations partnership with civil society in support of target 16.9 of the Sustainable Development Goals. The partnership will support efforts to achieve an officially recognized identity for all.

81. The partnership with ID2020 is focused on an open, human-centric approach to identity, one that draws on recent advances in biometrics and innovative technologies. Currently it is estimated that over 1.1 billion people have no verifiable identity.

Through collaboration with civil society, two large technology companies and the United Nations, the Office of Information and Communications Technology is supporting efforts to provide an official identity for all using technology.

82. Under the umbrella of the digital transformation agenda of the Secretary-General, and in line with Secretary-General's bulletin ST/SGB/2016/11 and close collaboration with substantive Secretariat units and user communities, the Enterprise Application Centre in Vienna has developed and delivered a portfolio of sustainable and affordable information technology solutions to key government institutions of Member States, including agencies countering corruption, controlling illicit drugs and combating transnational organized crime, for use in their jurisdictions.

83. The provision of software products is aimed at establishing and strengthening national capacities to gather, analyse and disseminate data, information and intelligence and to conduct tactical and strategic analyses to assist them in formulating relevant policies, rules and laws.

V. Optimization: global sourcing and global assets management

A. Global sourcing

84. In line with the process of rationalizing resources consistent with efforts to achieve harmonization of infrastructure and services across the ICT offices of the Secretariat, significant progress has been made in harmonizing procurement needs, leading to the establishment of new global system contracts administered by the Operations Coordination Section of the Office of Information and Communications Technology.

85. Procurement actions either have already been completed or are under way to establish global system contracts for information technology equipment; voice, data and hosting cloud services; and enterprise software development and applications services, accessible by multiple users in multiple locations across the Secretariat. With a larger number of users and a long-term contracts period, it has been possible to achieve economies of scale and discounts on the equipment and/or services procured.

86. During the third year of implementation, in a collaboration among the Office of Information and Communications Technology, the Information and Communications Technology Division of the Department of Field Support, other Secretariat offices and the Procurement Division, efforts continued towards the accomplishment of global sourcing and contracts management, as outlined below:

(a) A contract for the provision of geospatial information services was awarded in July 2016;

(b) An ICT global system contract is being established for the provision of fully managed services such as email, storage, satellite network management and service desk; task order services; and integrated workforce services. The service locations include the Secretariat in New York and peacekeeping and special political missions, as well as economic commissions, tribunals and offices away from Headquarters. The procurement process is currently at the technical evaluation stage, and it is expected that a contract will be awarded in the first half of 2018;

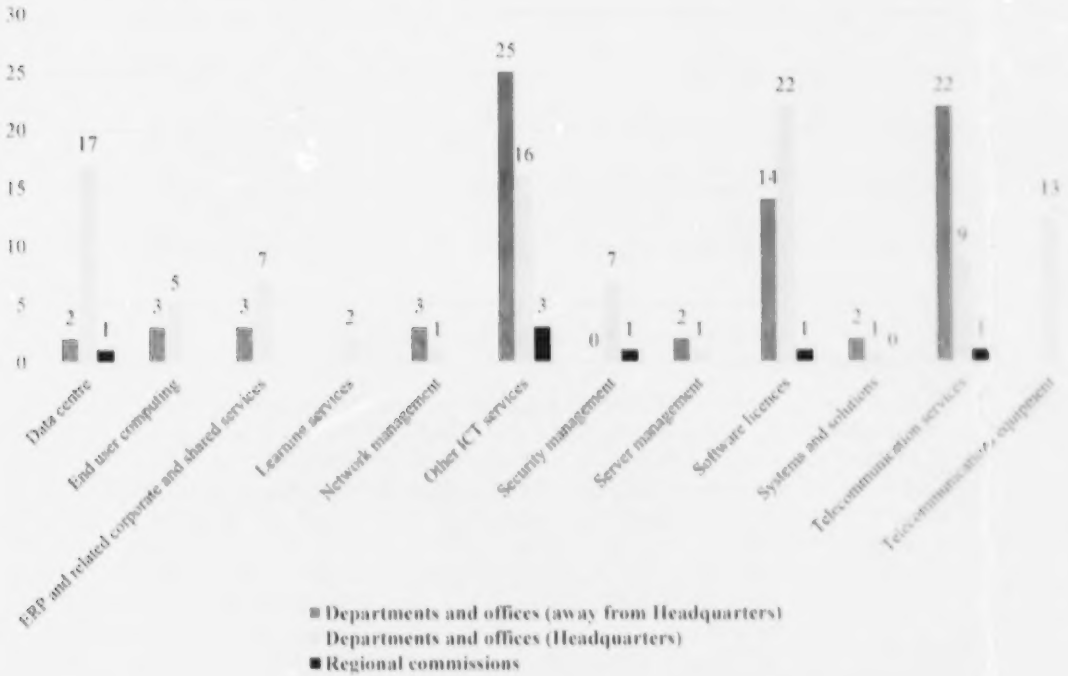
(c) An application service global system contract is being established through three delivery models, consisting of integrated workforce services, a retainer

agreement and task orders. Both the Office of Information and Communications Technology and the Information and Communications Technology Division will benefit from this agreement in multiple locations. The statement of work is currently under review by the representatives of the Office, the Information and Communications Technology Division and the Procurement Division. The award of the contract is expected in the first half of 2019;

(d) Although the SITA telecommunications contract for the provision of global connectivity was established in 2013, its scope and use have been progressively increasing over time, resulting in better prices and global volume discounts, a successful example of global sourcing. The AT&T contract for connectivity at Headquarters will be terminated and services incorporated into the SITA contract;

(e) Direct negotiations are under way with two major cloud computing service providers for the establishment of a global system contract for building, deploying and managing applications and services through a global network of managed data centres. Cloud computing will provide software as a service, platform as a service and infrastructure as a service, allowing the United Nations to avoid upfront infrastructure costs and enabling the Organization to focus on its core businesses instead of spending time and money on computer infrastructure.

Figure II
Overview of contracts related to information and communications technology



Abbreviation: ERP, enterprise resource planning.

B. Global assets management

87. The importance of the strong central leadership of the Chief Information Technology Officer for the overall direction and performance of ICT activities within the Organization has been acknowledged by the General Assembly (resolution 69/262, sect. II, para. 16). With respect to asset management in the global Secretariat, improved control and accountability can be provided through strengthened visibility of both tangible and intangible assets; to that end, the Office of Information and Communications Technology and the Department of Field Support undertook a review of assets and acquisitions in May and June 2016. The Organization currently procures and maintains both annual subscriptions and perpetual licences; however, it has become apparent from the review that there is an opportunity to move from individual to enterprise-wide licensing with significant benefits to the Organization. Soon, Umoja will provide the opportunity for the Office to monitor physical and intellectual property and software licences, which constitute a significant portion of ICT investments and resources.

88. Umoja is already in place as the central database repository data warehouse for all ICT assets and system to monitor the status of property, plant and equipment, transactions and change management control of physical ICT assets. Software licences are registered through the service entry sheet under the Umoja procurement process and registered, in accordance with the standard Umoja procedure, as intangible assets. The Office of Information and Communications Technology is currently working with the Office of Programme Planning, Budget and Accounts to establish a standard procedure for the identification and capitalization of intangible assets resulting from software development.

89. All United Nations ICT assets are monitored and controlled throughout the life cycle of each item, from receipt to disposal. For intangible ICT assets, including licences, the verification is conducted frequently using business analytics methods to ensure the appropriate use and custody of the asset and the appropriate control systems. Assets are monitored to ensure proper accountability and that related records are maintained. Appropriate levels of authority for physical and intangible assets management are delegated by the Chief Information Technology Officer to the Regional Technology Centres.

Information and communications technology assets and inventory in peacekeeping operations

90. As at 30 June 2017, ICT assets held by peacekeeping operations had an original purchase value of $642.5 million, which had depreciated by $370.5 million, resulting in a residual value of $272 million as at 30 June 2017. Of those assets, 57.3 per cent ($368.5 million) were categorized as property, plant and equipment items (e.g. satellite earth stations, shelters for communications equipment), 41.7 per cent ($268.6 million) were categorized as expense items (e.g. computers, printers, satellite phones) and 1 per cent ($5.4 million) were categorized as inventory items (e.g. portable radios, storage disks), as shown in figure III. Of the total assets, 75 per cent ($481.6 million) were in use, 17 per cent ($108.3 million) were held in stock, 6 per cent ($38.7 million) were pending write-off or had already been written off, and 2 per cent ($13.8.0 million) were being transferred, loaned or under shipment (see figure IV).

Figure III
Classification of Department of Field Support information and communications technology assets as at 30 June 2017

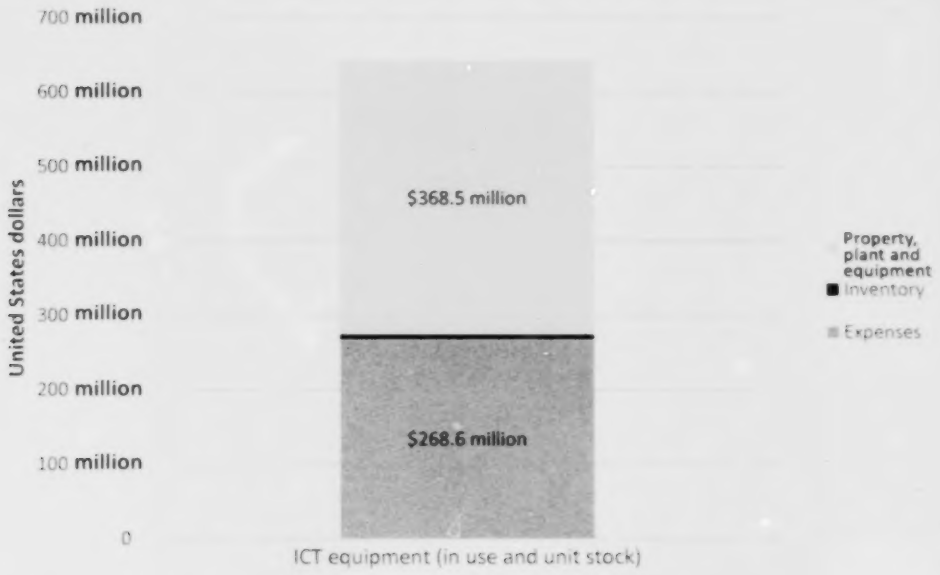
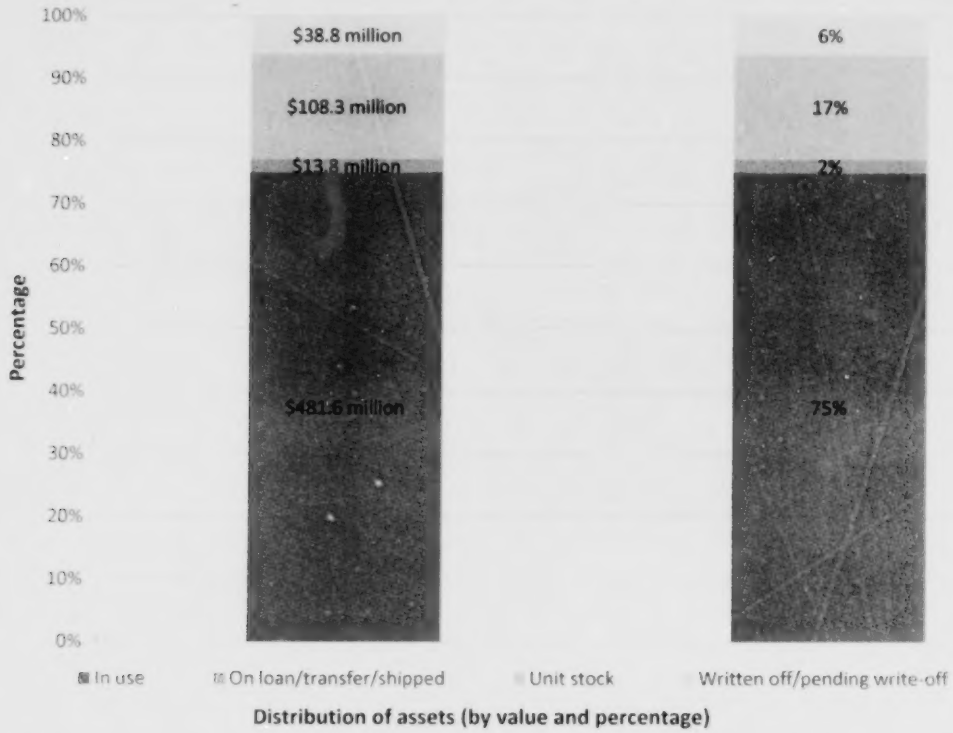


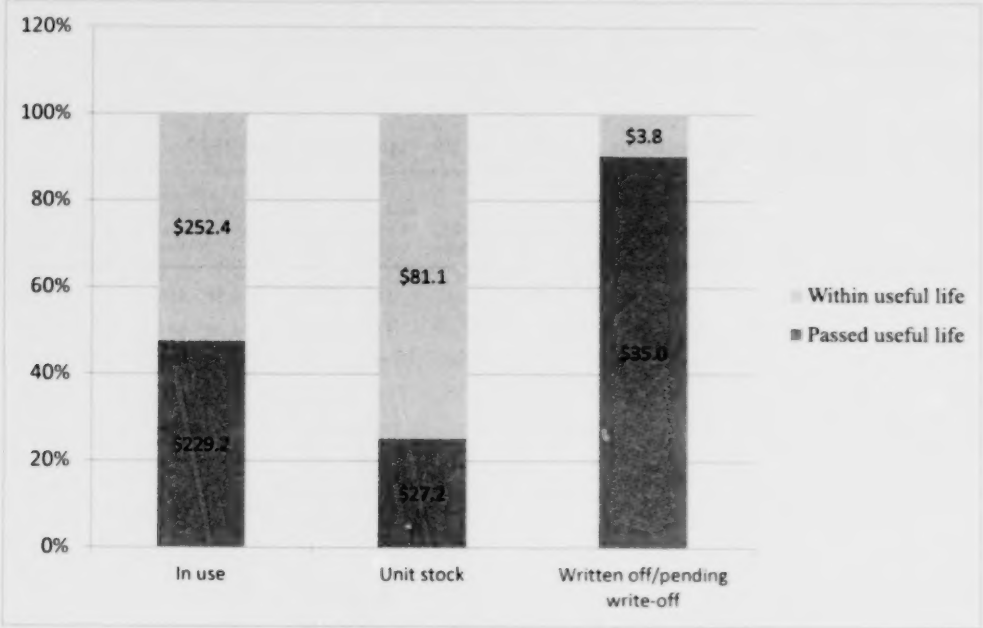
Figure IV
Status of Department of Field Support information and communications technology assets as at 30 June 2017



91. Of the assets that were in use, 47.3 per cent ($229.2 million) had passed the end of their useful life; and 25.1 per cent ($27.2 million) of the items in unit stock had passed the end of their useful life (see figure V). Assets that have passed the end of their useful life and are categorized as unit stock are generally held as interim operational replacements for immediate use owing to delays in receiving asset replacements.

Figure V
Status of useful life of Department of Field Support information and communications technology assets as at 30 June 2017

(Millions of United States dollars)



92. Peacekeeping missions continue to operate with ageing equipment and, if this continues, there is a potential for mission mandates to be compromised. For example, as at 30 June 2017, $45.8 million worth of computer notebooks and computer desktops were in use across peacekeeping and special political missions, of which 46.2 per cent ($21.2 million) had passed the end of their useful life, with the remaining 53.8 per cent ($24.7 million) expected to pass the end of their useful life by the biennium 2019–2020 if no replacements are provided.

93. Ageing equipment for network communications, valued at $94.1 million, totalling 14.6 per cent of all ICT assets, has passed or will pass the end of its useful life and is more likely to fail, making the network more prone to outages and systems failure. As the manufacturer will no longer provide support for such network equipment, there will no longer be any security updates or bug fixes, which increase the risk of spyware incidents, cyberattacks and hacking. The non-replacement of such network equipment has the potential to negatively affect the safety and security of staff, as well as eroding confidence and reducing productivity in field missions. Furthermore, the cost to maintain legacy equipment goes up as time goes on.

94. The Department of Field Support has developed a risk assessment framework against centrally defined parameters, which has facilitated a holistic review of the exposure to risk and impact on operations should no replacements be provided. The framework has shown that the ageing of the asset base has continued to accelerate over the past five years. Because of that degradation, the replacement of obsolete equipment associated with the delivery of critical services to the Secretariat and the Department of Field Support should be a priority. In addition, nominal end user

equipment that has been subject to technological obsolescence, and is therefore unusable, should be replaced. On the basis of that risk assessment framework, the resources needed for the replacement of critical assets for 2018/19 is $148.1 million (see table 2). That amount represents 57 per cent of the monetary value of all critical ICT assets past their life expectancy, and is fundamental to guaranteeing the availability of critical services going forward and reducing the risks of a major operational loss.

Table 2
Critical information and communications technology assets past life expectancy, June 2017

Description	*Total, all assets*	*Quantity, past life expectancy*	*Percentage past useful life*	*Value, in use and in stock (United States dollars)*	*Value, past life expectancy (United States dollars)*	*Value, past useful life (percentage)*
Computer desktop	14 331	9 752	68	14 077 055	9 967 859	71
Computer notebook	27 533	8 183	30	31 762 615	11 205 607	35
Computer server	679	537	79	9 340 778	6 595 386	71
Modem satellite	2 603	1 149	44	15 761 634	6 890 618	44
Network appliance	432	244	56	6 480 026	3 639 264	56
Network attached storage	53	26	49	832 771	115 858	14
Network firewall	736	302	41	11 325 458	4 463 917	39
Network router	1 641	1 083	66	22 827 069	16 135 832	71
Network server	296	149	50	3 687 705	1 658 596	45
Network switch	6 967	3 912	56	60 520 489	41 850 323	69
Radio broadcast equipment	910	466	51	6 104 399	2 246 284	37
Satellite earth station, fixed	434	164	38	15 687 353	7 460 530	48
Tape library system	22	15	68	482 178	374 550	78
Telephone PABX	503	344	68	23 842 610	17 598 810	74
Terminal, multichannel digital	4 256	2 123	50	26 977 156	16 373 479	61
Videoconference terminal	771	196	25	8 200 874	1 607 201	20
Total				**257 910 170**	**148 184 114**	**57**

95. With regard to the request from the Secretary-General to formulate a system-wide policy for the reuse and safe disposal of decommissioned ICT equipment, the Department of Field Support has provided guidance to field missions on reviewing local market conditions and exploring opportunities for the establishment of disposal agreements with local authorities, with a view to using alternative disposal methods. Through an annual directive on property management issued for the financial year 2017, missions are requested to implement United Nations principles of environmental stability in full compliance with the environmental policy for United Nations field missions and the Waste Management Policy, as well as with local environmental regulations and laws, and define an asset disposal strategy that includes specific guidance for the write-off and disposal of decommissioned ICT assets.

VI. Overview of financial resources

A. Overview of budget

96. The overall regular budget resources, including resources for the special political missions, have decreased from $5,620.2 million, as appropriated for the 2016–2017 biennium, to $5,405.1 million for 2018–2019 (see annex I). The approved ICT resources for 2018–2019 total $381.3 million, the same amount as for 2016–2017. Of that amount, 45.9 per cent represent human resources (posts in the Information and Telecommunication Technology Network, which includes the media technology, telecommunications technology and information management systems and technology job family), 20.5 per cent communications and 19.5 per cent data processing services (see figure VI).

97. The peacekeeping budgets available for ICT programmes decreased from $851.9 million during the 2016–2017 biennium to an estimated $747.9 million during the 2018–2019 biennium. The extrabudgetary resources decreased from $184.9 million for the 2016–2017 biennium to an estimated $181.5 million for the 2018–2019 biennium.

Figure VI
Total information and communications technology resources for 2016–2017 and 2018–2019, regular budget

(Thousands of United States dollars)

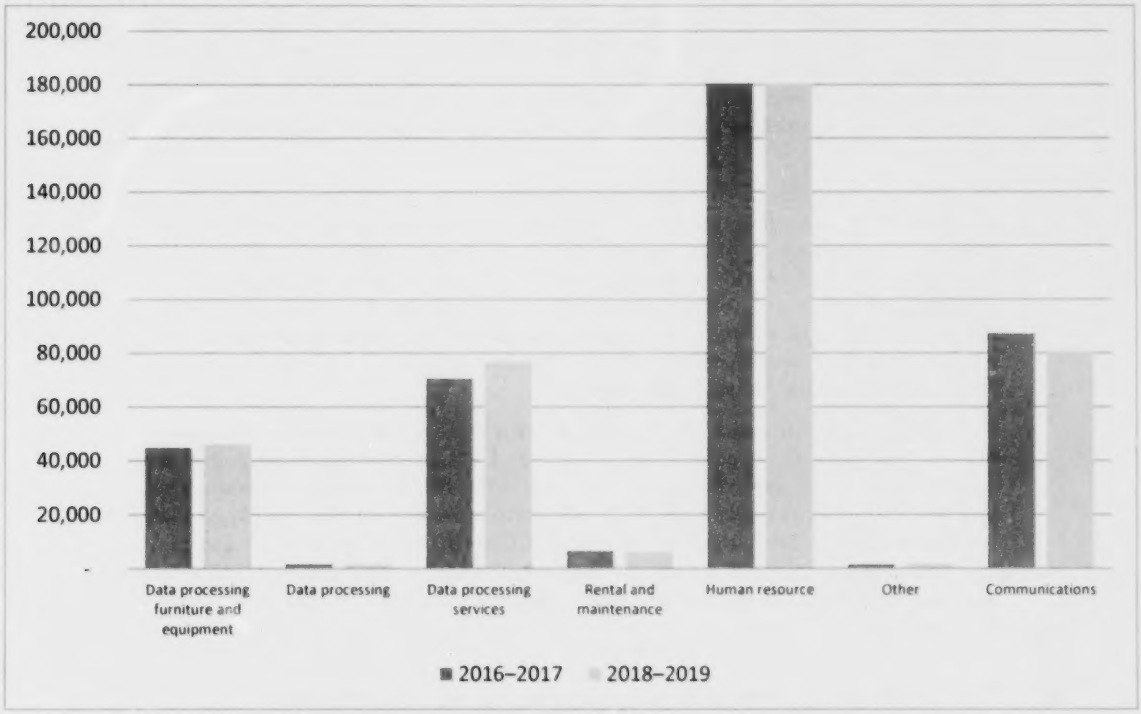
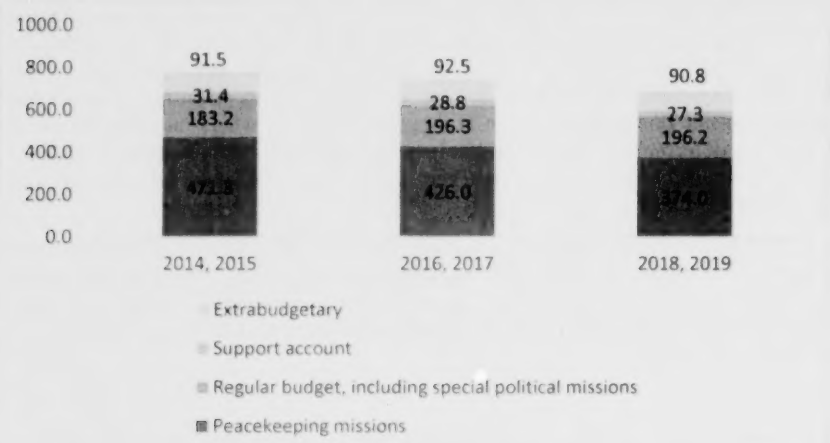


Figure VII
Overview of annual resources for information and communications technology, by source of funding

(Millions of United States dollars)



98. The Secretariat evaluated the resources necessary to take forward ICT programmes and activities mandated by the General Assembly and is determining the optimal level of resources required during the 2018–2019 biennium, considering cost optimization initiatives. The resources allocated to ICT from the 2016–2017 programme budget averaged 7 per cent of the overall appropriations. The budget for 2018–2019 will be implemented with ICT spending averaging 7.3 per cent of regular budget resources.

99. Annex I provides an overview of ICT resources for the bienniums 2016–2017 and 2018–2019, including resources for Umoja. The Organization allocated 3.6 per cent of its resources to ICT programmes and activities during the 2018–2019 biennium, but with broad differences across various sources of funding. For extrabudgetary resources, the allocation of ICT resources as a percentage of the total budget is 0.9 per cent, while for the support account that percentage is the highest, at 9.1 per cent. For peacekeeping missions, the allocation of ICT resources as a percentage of the total budget is 5.8 per cent.

100. The average distribution of post-related ICT resources in peacekeeping missions over the past three fiscal periods has been around 27 per cent, while the non-post resources account for approximately 73 per cent. In the 2017/18 period, ICT resources have decreased substantially from $445 million to $374 million, due mainly to the liquidation of the United Nations Operation in Côte d' Ivoire in 2016/17 and the approval of resources for 6 months for the United Nations Stabilization Mission in Haiti and the African Union-United Nations Hybrid Operation in Darfur, as opposed to 12 months.

B. Cost recovery of resources allocated to client departments

101. A main focus of the ICT strategy was the reduction of ICT costs across the Organization, resulting from a consolidation of ICT resources, infrastructure and help

desks, along with a rationalization of applications. Annual ICT costs have been streamlined, creating efficiencies in ICT services and allowing investments to become more focused on strategic deliverables.

102. A comprehensive rate card has been developed for the 2018–2019 biennium, including a standard fee for enterprise applications and personal computing.

VII. Conclusion

103. The ICT strategy established a common vision of ICT delivery in the United Nations through modernization, transformation and innovation, founded on a framework of improved governance and an effective balance of central leadership and operational freedom. However, challenges to fully realizing that vision remain.

104. The most significant issues affecting the ICT landscape of the United Nations and its ability to successfully implement its mandates, ensure effective support and respond to the growing cybersecurity threat continue to be fragmentation and a highly distributed approach to ICT, which limit interoperability, simplicity and resilience across the Organization and, ultimately, reduce efficiencies and increase costs.

105. ICT is critical to the United Nations and a strategic enabler allowing for modernization, simplification and flexibility, ultimately supporting the United Nations in delivering on its mandates. In close collaboration with all departments, issues highlighted by the Board of Auditors related to technical authority, comprising standards, policies and governance, have been tackled through the ICT strategy. Going forward, the ICT strategy will support organizational reform with new policies and processes that will simplify the Organization's work, and will support information sharing, thereby empowering more coherent mandate implementation. Processes and policies will be automated and built into workflows and systems so that compliance introduces minimal overhead on operations. Similarly, oversight, governance and accountability will be embedded in all applications to allow for automated accountability and risk management. Finally, in support of improved accountability in the context of escalating cybersecurity risk, control and accountability will work in concert with the segregation of duties embedded in systems, which will ensure appropriate checks and balances.

106. It is imperative that the United Nations transform into an organization that is at the forefront of the technology and data-driven revolution, in which technology is leveraged as a catalyst and enabler. To do so, the United Nations must focus efforts on four critical areas:

(a) Delivering on mandates: the use of technology, real-time data sharing, effective management and information and innovative technologies is key to the delivery of mandates;

(b) Technology to drive reform: internally, the United Nations can optimize support, logistics and administration; technology and data, if used properly, can lead to a more cost-effective and more efficient organization;

(c) Resources through partnerships: the enormous resources — financial, data and expertise — that exist in the technology sector, the innovative solutions emerging from individuals in a hyperconnected world, and the deep foundation of knowledge in academia are essential in supporting United Nations efforts;

(d) Data-driven decision-making: decision-making, policy formulation and legislative instruments that are established by the United Nations internally, as well as by the Member States, can be significantly strengthened if supported by the use of technology and data.

107. Despite challenges, significant progress made in the first two and a half years of implementation of the strategy indicates that the ultimate long-term goal of comprehensive, reliable and efficient ICT in the United Nations is achievable. To build on the gains so far, and to add further impetus to the implementation of the ICT strategy, consolidating and aligning, and thereby focusing on, strategic enterprise architecture, governance risk and compliance, as well as information security, is proposed, enabling a transformation that promotes innovation and a data-driven approach at all levels of the Organization. The Secretary-General intends to make further proposals designed to optimize the impact of ICT investment in the delivery of the Organization's mandated tasks, in the context of his reform proposals.

VIII. Action to be taken

108. The General Assembly is requested to take note of the status of ongoing implementation of the ICT strategy.

Annex I

Overview of information and communications technology resources for the bienniums 2014–2015, 2016–2017 and 2018–2019, including resources for Umoja

(Millions of United States dollars)

Biennium	*Regular budget, including special political missions*[a]	*Extra-budgetary*[a]	*Support account*[b]	*Peacekeeping missions*[c]	*Total*	*Umoja*	*Total, including Umoja*	*Annual, excluding Umoja*	*Annual, including Umoja*
2014–2015	366.4	183.0	62.8	942.5	1 554.7	111.1	1 665.8	777.3	832.9
2016–2017	392.5	184.9	57.7	851.9	1 487.0	99.0	1 586.0	743.5	793.0
2018–2019	392.5	181.5	54.5	747.9	1 376.4	77.6	1 454.0	688.2	727.0
Total ICT resources, 2014–2019	**1 151.4**	**549.4**	**175.0**	**2 542.4**	**4 418.1**	**287.7**	**4 705.8**	**2 209.1**	**2 352.9**
Total budgets for 2018–2019[d]	**5 405.1**	**21 313.4**	**601.5**	**12 952.4**	**40 272.5**	**77.6**	**40 350.1**		
Percentage of ICT resources as part of total budget	7.3	0.9	9.1	5.8	3.4	100.0	3.6		

[a] The analysis of staff costs approved for the biennium 2016–2017 and proposed for the biennium 2018–2019 captures posts in the Information and Telecommunication Technology Network, which includes the media technology, telecommunications technology and information management systems and technology job family. The analysis of non-post resources comprises non-post commitment items with regard to information technology and communications from the Umoja system. Totals do not include one-time Umoja project resources. For the regular budget, the 2014–2015 amount reflects actual expenditure. Owing to the unavailability of information, extrabudgetary expenditure for 2014–2015 is an approximation of 2016–2017 expenditure, where applicable.

[b] Calculations for staff costs with regard to the support account are based on the standard cost applicable for the support account for peacekeeping operations and count of actual authorized posts and general temporary assistance positions in the Information and Communications Technology Division of the Department of Field Support, the Office of Information and Communications Technology, the Financial Information Operations Service of the Office of Programme Planning, Budget and Accounts and the Human Resources Information Systems Section of the Office of Human Resources Management for the reporting periods.

[c] See A/C.5/68/26, A/C.5/69/24, A/C.5/70/24 and A/C.5/71/24 for amounts under communications and information technology classes of expenditure. See A/71/400, annex I, for the calculations for the staff costs with regard to peacekeeping missions for the 2014/15 period. For the 2016/17 and 2017/18 periods, staff costs with regard to peacekeeping missions are based on standard costs in peacekeeping mission budgets for staff in the ICT organizational units.

[d] See A/72/6 (Introduction), A/72/6 (Introduction)/Corr.1 and A/C.5/71/24. For peacekeeping missions, the total budget for the 2018–2019 biennium is estimated as double the approved amount for the 2017/18 period.

Annex II

Status of information and communications technology strategy projects

A. Overview of project status

Number of projects	*Status*
20	Strategic projects reported in the first progress report (A/70/364)
-7	Projects completed and moved to ongoing operations, second progress report (A/71/400)
13	Remaining strategic projects, second progress report (A/71/400)
-5	Projects completed and moved to ongoing operations, third progress report (A/72/755)
8	Remaining strategic projects, third progress report (A/72/755)

Note: Of the 13 remaining projects reported in the previous progress report, the following projects were successfully completed in 2016 and moved to ongoing operations: data centre consolidation; 10-point action plan to strengthen information security (compliance moved to ongoing operations); Umoja application interfaces; ICT policy and compliance (compliance moved to ongoing operations); and network and infrastructure upgrade (MPLS)/"One United Nations" network.

B. Modified projects, based on change requests that have been approved or are pending approval by the project management board

Change requests were approved by the project management board for the eight projects listed below; the requests were made to adjust the timeline of the projects, to phase out projects to enable better tracking, or to close projects that have been fast-tracked. Change requests may be made owing to procurement delays, funding issues, increased scope or re-evaluation of schedules.

Project name	*Change request description*
Unite Service Desk/consolidation	Modified the project finish date from 31 March 2017 to 31 December 2018 as the Service Desk consolidation is on hold. As a combined effect of cluster 5 going live and Galileo decommissioning, Department of Field Support/Department of Peacekeeping Operations consolidation activities were stopped and will be postponed to the end of 2018
Network and infrastructure upgrade (MPLS — multiprotocol label switching) — "One United Nations" network	Modified the project finish date from 31 December 2016 to 31 December 2017. Headquarters SoNET replacement was expected to be completed by 31 December 2017
Enterprise Network Operations Centre	Modified the project finish date from 31 December 2017 to 31 December 2018. Phase 2 was expected to be completed by 31 August 2017 and phase 3 by 31 December 2018

Project name	*Change request description*
Umoja mainstreaming	Modified the project finish date from 31 December 2018 to 30 September 2019. Activities on security, business intelligence and applications are expected to be completed by 30 September 2019
Global sourcing strategy	Modified the project finish date from 31 March 2017 to 14 February 2019. Project schedule was re-evaluated and adjusted based on high dependence on other departments. ICT contract award for requests for proposals for ICT services changed to first half of 2018, and contract award for application services to first half of 2019. Contract for cloud computing services was planned to be completed by the end of 2017
10-point action plan to strengthen information security	The 10-point action plan is transitioning to maintenance mode, and a longer term strategic road map has been developed for information security going forward
Website consolidation/ rationalization	Closed phase 1 (completed on 30 June 2017) and initiated phase 2 based on a new plan. Modified the project finish date from 30 November 2017 to 31 December 2020
Enterprise business intelligence and analytics	Modified the project plan by closing phase 2 and adding phase 3. Carried forward two remaining activities of phase 2 into phase 3. Modified the project finish date from 31 December 2016 to 28 February 2018

C. Ongoing projects

Project name	*Description*	*Start date*	*Finish date*	*Percentage complete*	*Key milestones*
Unite Service Desk/consolidation	Establish a 24/7 global support centre for enterprise applications, including Umoja, Inspira, Unite Docs, Unite Connections, iNeed, Earthmed, etc. Consolidate help desks across the Organization	1 January 2015	31 December 2018	93%	Fully resourced and staffed Enterprise Service Desk (finish date: 30 September 2015; complete) Technology roll-out (finish date: 30 September 2015; complete) Establish funding model (finish date: 31 December 2015; complete) Consolidation of help desks (finish date: 31 December 2018; on hold)
Network and infrastructure upgrade (MPLS — multiprotocol label switching) — "One United Nations" network	Upgrade the wide area network to accommodate existing and new enterprise applications	10 May 2013	31 October 2017	95%	Complete cluster 4 connectivity (finish date: 30 September 2015; complete) Establish funding model (finish date: 31 October 2015; complete) Continue to add Secretariat entities (finish date: 31 December 2017; complete)
Enterprise Network Operations Centre	Establish an enterprise-level operations centre that will be globally responsible for detecting changes of state for IT assets (event management) and determining the course of action required to return affected IT services to an acceptable level for the IT users as quickly as possible (incident management)	11 May 2015	31 December 2018	72%	Phase 1: monitoring of New York infrastructure by global Enterprise Network Operations Centre (finish date: 31 December 2015; complete) Phase 2: consolidation of global Enterprise Network Operations Centre and Network Control Centre of the Information and Communications Technology Division of the Department of Field Support into one enterprise monitoring solution (finish date: 31 August 2017; complete)

Project name	Description	Start date	Finish date	Percentage complete	Key milestones
					Phase 3: move monitoring of other Regional Technology Centres to Enterprise Monitoring (finish date: 31 December 2018; in progress)
Data centre consolidation	Deploy shared infrastructure services and applications to the Enterprise Data Centres	1 December 2013	31 December 2016	100%	Handover of core operational support activities from Regional Technology Centres to Enterprise Data Centres (complete)
					Resilient Unite Docs and Unite Connections in production (complete)
					Resilient Inspira in production (complete)
					Develop a project plan for migrating remaining applications (finish date: 31 December 2016; complete)
Umoja mainstreaming	Transfer responsibilities from the project to corresponding entities within the Secretariat	1 December 2013	30 September 2019	73%	Infrastructure (finish date: 31 December 2018; in progress)
					Security (finish date: 31 December 2018; in progress)
					Business intelligence (finish date: 31 December 2016; in progress)
					Applications (finish date: 31 December 2018; in progress)
					Deployment coordination (finish date: 31 December 2018; in progress)
					Production support (finish date: 31 December 2018; in progress)

Project name	*Description*	*Start date*	*Finish date*	*Percentage complete*	*Key milestones*
					Administration (project management, contracts, human resources, budget) (finish date: 30 September 2019; in progress)
Global sourcing strategy	Take inventory of all ICT contracts and assets and identify global sourcing opportunities	1 February 2016	14 February 2019	46%	Phase 1: requirements and development of requests for proposals (finish date: 31 December 2016) – Voice and data (complete) – Geospatial information services (complete) – ICT services (in progress) – Applications (in progress) Phase 2: solicitation and contract award for requests for proposals (finish date: 14 February 2019; in progress)
10-point action plan to strengthen information security	Strengthen information security across the Secretariat in the areas of: prevention, incident detection and response and governance, risk and compliance	1 March 2013	31 December 2016	100%	Initiative 1: workstation configuration to ensure compliance with policies and procedures (finish date: 31 December 2016; complete) Initiative 2: email filtering (complete) Initiative 3: mandatory security awareness training (complete) Initiative 4: network security — segmentation of network zones (finish date: 31 December 2016; complete) Initiative 5: intrusion detection (complete)

Project name	Description	Start date	Finish date	Percentage complete	Key milestones
					Initiative 6: cyberintelligence service/feed (complete)
					Initiative 7: approve and promulgate pending draft policies (complete)
					Initiative 8: classify information assets (finish date: 31 December 2016; complete)
					Initiative 9: mandatory implementation of minimum requirements for public websites (finish date: 31 December 2016; complete)
					Initiative 10: mandatory report of information security incidents (complete)
Disaster recovery	Develop a Secretariat-wide disaster recovery plan to ensure that critical ICT systems can be effectively failed over in case of emergency	1 May 2013 (phase 1)	31 December 2016 (phase 1)	100%	Review list of Secretariat-wide critical applications (complete)
		17 October 2017) (phase 2)	28 June 2019 (phase 2)	9%	
					Revise disaster recovery estimates for critical applications (complete)
					Resubmit proposal for disaster recovery for September approval (complete)
					Develop individual disaster recovery plans for critical applications (finish date: 31 December 2016; complete)
					Disaster recovery exercises (finish date: 28 June 2019; in progress)

Project name	*Description*	*Start date*	*Finish date*	*Percentage complete*	*Key milestones*
Umoja application interfaces	Ensure that existing systems and applications currently supporting administrative business requirements that will not be met by Umoja Foundation and Umoja Extension 1 releases continue to operate and serve their business purpose	1 May 2014	30 September 2016	100%	Fit/gap analysis (complete) Establish application interface profile (AIP) registry (complete) Approve first batch of AIPs for cluster 3 by Umoja Change Control Board (complete) Delivery of first production AIP interface (complete) Delivery of approved AIP interfaces to cluster 3 and 4 entities (complete) Rationalization of AIP interfaces and applications (finish date: 30 September 2016; complete)
ICT policy and compliance	Establish ICT policy compliance function. Perform self-assessment and detailed self-assessments for selected policies	31 July 2015	31 December 2016	100%	Issue policies (complete) Establish compliance function in the Office of Information and Communications Technology (complete) Coordinate self-assessments for all ICT entities (complete) Detailed policy compliance review (finish date: 31 December 2016)
Application consolidation/ rationalization	Reduce the cost, complexity and redundancy of the applications portfolio and achieve greater alignment with	1 June 2014	31 December 2020	70%	Phase 1: develop methodology and application road maps; establish global application portfolio (complete)

Project name	Description	Start date	Finish date	Percentage complete	Key milestones
	organizational objectives and technology architecture. This project is the essential part of the application management strategy, which has been executed by the established Enterprise Application Centres. Number of United Nations applications to be reduced from 2,340, in June 2014, to 1,000 by 2020 through the provision of Organization-wide systems, instead of local application development				Phase 2: decommissioning of scheduled enterprise resource planning-related systems, IBM Notes migration and execution of application rationalization road maps (finish date: 31 December 2017; complete) Phase 3: reduce number of United Nations applications to 1,000 (finish date: 31 December 2020; in progress)
Website consolidation/ rationalization	Increase the efficiency of the website operations, web design and security and bring about economies of scale through strategic changes in the current operating model	2 January 2014	31 December 2020	30%	Develop website technology and plan (complete) Develop United Nations website consolidation solution (complete) Harmonization levels 1 and 2: address critical websites (complete) Harmonization level 3: identify and remediate websites (complete) Harmonization level 4: identify and remediate websites (finish date: 30 November 2017; as phase 2) Phase 2 (finish date: 31 December 2020) – Establish project governance – Maintain the inventory of websites – Assess websites for regulatory requirements, business, technology and financial aspects – Identify issues, overlaps, improvement opportunities

Project name	*Description*	*Start date*	*Finish date*	*Percentage complete*	*Key milestones*
					– Develop and execute road maps for meeting compliance requirements and realize improvement opportunities for website harmonization and consolidation on common technology platform
Enterprise business intelligence and analytics	Establish business intelligence and analytics processes, reports, dashboards, standardization and governance for enterprise applications. Consolidate and defragment business warehouse environments	1 January 2016	28 February 2018	92%	Develop strategy and set up Data Governance Council (complete) Define roles/responsibilities, build capacity, procure SAP HANA licences and install new business intelligence schemas (complete) Consolidate data for ICT skills assessment (complete) Develop data governance framework and information asset registry (complete) Develop pilot projects. Build capacity for Umoja Business Intelligence an Analytics (finish date: 28 February 2018; in progress)